

REMARKS

With this amendment, Applicants add claims 21-24. Claims 1-24 are all the claims pending in the application.

I. Formalities

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119 and for confirming receipt of the certified copy of the priority document.

II. Claim Objections

The Examiner has objected to claim 16 because of an informality. Specifically, the Examiner states that claim 16 depends on claim 8 but should depend on claim 9.

Applicants submit that the modifications to claim 16 obviate the objection.

III. Claim Rejections - 35 USC § 102

The Examiner has rejected claims 1, 7, 8, 14, 17 and 18 under 35 U.S.C. § 102(b) as being anticipated by Nishikawa *et al.* (US 5,598,481). ["Nishikawa"]. For at least the following reasons, Applicants traverse the rejection.

Claim 1 recites a method of detecting an abnormal pattern candidate that comprises "performing processing, in which a first shape-dependent filter in accordance with a shape of a microcalcification pattern is utilized, on the object image, a fine structure image, which illustrates a fine structure area embedded in the object image, being thereby formed." The Examiner contends that the preprocessing performed by the noise reduction filter of Nishikawa corresponds the claimed processing utilizing a shape-dependent filter.

Nishikawa discloses that preprocessing may be performed on digital mammograms prior to detection of micro-calcifications in order to eliminate noise (col. 21, lines 15-32). The preprocessing uses morphological erosion and dilation to remove high frequency noise without corrupting small or large structures in the digital image (col. 21, lines 17-24, and col. 22, lines 9-11). Accordingly, the noise reduction filter produces an image that has both large and small structures.

Because the noise reduction filter of Nishikawa merely reduces high frequency noise and because the noise reduction filter is not designed to affect small structures (i.e., micro-calcifications), Applicants submit that the noise reduction filter is not “in accordance with a shape of a microcalcification pattern” as set forth in claim 1. To the extent the noise reduction filter may be “shape” dependent, the “shape” would correspond to that of random noise (see col. 22, lines 4-50), not the “shape” of micro-calcification patterns. Accordingly, Nishikawa does not disclose or suggest the claimed processing with a first shape-dependent filter as set forth in claim 1.

In addition, because both large and small structures would be present in the resultant noise reduced image, Applicants submit that one skilled in the art would not construe the resultant image as a “fine structure image” as set forth in claim 1.

Because independent claim 8 recites features similar to those given above for claim 1, Applicants submit that claim 8 is patentable for at least reasons similar to those given above with respect to claim 1.

Applicants submit that claims 7, 14, 17 and 18 are patentable at least by virtue of their respective dependencies.

III. Claim Rejections - 35 USC § 103

The Examiner has rejected claims 2, 3, 9, 10, 15, 16, 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Nishikawa in view of Takeo *et al.* (US 5,714,764). [“Takeo”]. For at least the following reasons, Applicants traverse the rejection.

Because Takeo does not cure the deficient teachings of Nishikawa given above with respect to claims 1 and 8, Applicants submit that these claims are patentable at least by virtue of their respective dependencies.

The Examiner has rejected claims 4, 5, 6, 11, 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Nishikawa in view of Doi *et al.* (US 4,907,156). [“Doi”]. For at least the following reasons, Applicants traverse the rejection.

Because Doi does not cure the deficient teachings of Nishikawa given above with respect to claims 1 and 8, Applicants submit that these claims are patentable at least by virtue of their respective dependencies.

IV. New Claims

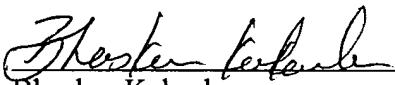
With this amendment, Applicants add claims 21- 24. Applicants submit that claims 21- 24 are patentable at least by virtue of their respective dependencies, as well as the features set forth therein.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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